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Patent Claims

1. A method for carrying out ^{an} the advancing movement of at least one tool ^{support} ~~rest~~ ^{rotatable} rotating about a rotationally symmetric component, ^{the at least one tool} and ~~which is being~~ capable of being ^{actuated} fed in each case via a leadscrew, and is supported on the component and ^{rotatably drivable} is driven in ~~rotation as a whole~~ by ^{way of} a stationarily mounted main motor via a main transmission mechanism connected firmly to ^a the support of ^{at least one support} the tool ~~rest or tool rests~~, ^{an} the advancing ^{actuation/advancing} movement of ^{the} each leadscrew being brought about in each case by ^a the relative movement of a further motor-driven transmission mechanism cooperating with the leadscrew, in addition to the main transmission mechanism, and ^a the relative movement generated by ^a the drive in ~~each case of a rest motor~~ ^{support} mounted at a fixed location and ^{for} driving the further transmission mechanism, ^{comprising} characterized in that ^{synchronously driving} the ~~rest motor~~ ^{support} is ~~synchronously driven~~ in rotation as a whole, by the main motor with the aid of a mechanical coupling ^{support} to the latter of ^{the rest and main motors} the rest and main motors.
2. The method as claimed in claim 1, ^{further comprising braking} characterized in that ^{the support} each ~~rest~~ motor is braked in the ^{an} event of a feed of zero.
3. A feed device for a working machine for ~~the~~ surface machining of ^a rotationally symmetric components ^{comprising} (1), with a stationarily mounted main motor (8) and with ^{having} a main transmission mechanism; ^{receiving drive movement from the main transmission mechanism and} for transmitting the ^{support} drive movement from the main motor (8) to ^{support} at least one tool ~~rest~~ (4) which rotates about the component; (1) and is capable of being fed on ^{support} at least one leadscrew (5) ~~and which is supported by means of a rest mounting (3) on~~ ^{for actuating the at least one tool support;}

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~~the component (1), each leadscrew (5)~~

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for supporting at least the at least one ^{tool support} ~~lead screw~~; and

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~~being capable of being driven by a further transmission mechanism and the latter by a fixed rest motor (13) characterized in that the housing of the rest motor (13) is mounted rotatably and is coupled mechanically to the main motor, (8) and is thus capable of being driven synchronously in rotation by the latter.~~

having a 5
further transmission
mechanism for
driving at least
the at least one
lead screw,

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4. The feed device as claimed in claim 3, ^{wherein} ~~characterized in that~~ the main transmission mechanism is an externally toothed gear ring (6) driven by a pinion ~~(7)~~ ^a seated on the motor shaft of the main motor (8).

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5. The feed device as claimed in claim 3 ~~or 4~~, ^{wherein} ~~characterized in that~~ the main transmission mechanism is an externally toothed gear ring driven by the ^a motor shaft of the main motor via a toothed belt.

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6. The feed device as claimed in ^{claim 3, wherein} ~~one of claims 3 to 5~~, ~~characterized in that~~ the further transmission mechanism is an externally and internally toothed gear ring (12) driven by a pinion (11) seated on the motor shaft of the ^{rest motor} ~~rest motor~~ (13).

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7. The feed device as claimed in ^{claim 3, wherein} ~~one of claims 3 to 6~~, ~~characterized in that~~ the further transmission mechanism is an externally and internally toothed gear ring driven by the motor shaft of the rest motor via a toothed belt.

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8. The feed device as claimed in ~~one of claims 3 to 7~~, ^{claim 3, wherein the} characterized in that each ~~rest~~ ^{support} motor (13) is equipped with a slip ring set (15) for the transmission of power to ~~its~~ windings. ^{thereof}
9. The feed device as claimed in ~~one of claims 3 to 8~~, ^{claim 3, wherein} characterized in that the further transmission mechanism is mounted rotatably on a support ~~(10)~~ of the main motor ~~(8)~~.
10. The feed device as claimed in ~~one of claims 3 to 8~~, ^{claim 3, wherein} characterized in that the further transmission mechanism is mounted rotatably on ~~the~~ ^{rest} ~~rest~~ ^{SUPPORT} mounting (3) of the tool ~~rest~~ ^{La} (4).
11. The feed device as claimed in ~~one of claims 3 to 10~~, ^{claim 3, wherein} characterized in that the main motor (8) is coupled mechanically to ~~the~~ ^{the} housing of the ~~rest~~ ^{SUPPORT} motor ~~or rest motors~~ (13) via toothed belts (14).
12. The feed device as claimed in ~~one of claims 3 to 10~~, ^{claim 3, wherein} characterized in that the main motor is coupled mechanically to the housing of the ~~rest~~ ^{SUPPORT} motor ~~or rest motors~~ via gearwheel mechanisms.
13. The feed device as claimed in ~~one of claims 3 to 12~~, ^{claim 3, wherein} characterized in that the ~~rest~~ ^{SUPPORT} motor (13) is a brake motor.
14. same as 13, depending on 4
15. " " " 5
16. " " " 6
17. " " " 7
18. same as 6, depending on 4
19. " " 7 " " 5
20. same as 12, depending on 4

Reference symbols

- 1 Shaft
- 2 Bearing
- 3 Frame support
- 4 Tool rest
- 5 Leadscrew
- 6 Ring gear
- 7 Pinion
- 8 Main motor
- 9 Tool
- 10 Support
- 11 Pinion
- 12 Ring gear
- 13 Rest motor
- 14 Toothed belt
- 15 Slip rings
- 17 Pinion